

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) An apparatus for determining leakage in an evaporated fuel processing system, the evaporated fuel processing system extending from a fuel tank through a canister to a purge passage through which evaporated fuel from the fuel tank is purged to an intake manifold of an engine, the canister comprising a vent-shut valve that communicates with the atmosphere, the apparatus comprising:

a pressure sensor for detecting a pressure of the evaporated fuel processing system;

a control unit connected to the pressure sensor, the control unit configured to:

detect a stop of the engine;

close the vent-shut valve to close the evaporated fuel processing system after the stop of the engine is detected;

determine whether the evaporated fuel processing system has leakage after the evaporated fuel processing system is closed based on the detected pressure and a predetermined determination value; and

prohibit the leakage determination if the detected pressure is not within a predetermined range,

wherein the predetermined range is based on a pressure range within which the vent-shut valve can open.

2. (Cancelled)

3. (Currently Amended) The apparatus of claim [[2]] 1, wherein the pressure range within which the vent-shut valve can open is based on a biasing force of a spring of the vent-shut valve.

4. (Original) The apparatus of claim 3, wherein the spring of the vent-shut valve is provided in the atmosphere side relative to a valve seat at which the vent-shut valve is seated,

wherein the control unit is further configured to:

prohibit the leakage determination if the detected pressure is greater than a predetermined positive pressure.

5. (Original) The apparatus of claim 3, wherein the spring of the vent-shut valve is provided in the canister side relative to a valve seat at which the vent-shut valve is seated,

wherein the control unit is further configured to:

prohibit the leakage determination if the detected pressure is lower than a predetermined negative pressure.

6. (Original) A method for determining leakage in an evaporated fuel processing system, the evaporated fuel processing system extending from a fuel tank through a canister to a purge passage through which evaporated fuel from the fuel tank is purged to an intake manifold of an engine, the canister comprising a vent-shut valve that communicates with the atmosphere, comprising the steps of:

detecting a pressure of the evaporated fuel processing system;
detecting a stop of the engine;
closing the vent-shut valve to close the evaporated fuel processing system after the stop of the engine is detected;
determining whether the evaporated fuel processing system has leakage after the evaporated fuel processing system is closed based on the detected pressure and a predetermined determination value; and
prohibiting the leakage determination if the detected pressure is not within a predetermined range.

7. (Original) The method of claim 6, further comprising the step of defining the predetermined range based on a pressure range within which the vent-shut valve can open.

8. (Original) The method of claim 7, further comprising the step of defining the pressure range within which the vent-shut valve can open based on a biasing force of a spring of the vent-shut valve.

9. (Original) The method of claim 8, wherein the spring of the vent-shut valve is provided in the atmosphere side relative to a valve seat at which the vent-shut valve is seated,

wherein the step of prohibiting the leakage determination further comprises the step of prohibiting the leakage determination if the detected pressure is greater than a predetermined positive pressure.

10. (Original) The method of claim 8, wherein the spring of the vent-shut valve is provided in the canister side relative to a valve seat at which the vent-shut valve is seated,

wherein the step of prohibiting the leakage determination further comprises the step of prohibiting the leakage determination if the detected pressure is lower than a predetermined negative pressure.

11. (Currently Amended) A computer program stored on a computer readable medium for use in determining leakage in an evaporated fuel processing system, the evaporated fuel processing system extending from a fuel tank through a canister to a purge passage through which evaporated fuel from the fuel tank is purged to an intake manifold of an engine, the canister comprising a vent-shut valve that communicates with the atmosphere, the computer program comprising:

program code for receiving a pressure of the evaporated fuel processing system from a pressure sensor;

program code for detecting a stop of the engine;

program code for closing the vent-shut valve to close the evaporated fuel processing system after the stop of the engine is detected;

program code for determining whether the evaporated fuel processing system has leakage after the evaporated fuel processing system is closed based on the detected pressure and a predetermined determination value; and

program code for prohibiting the leakage determination if the detected pressure is not within a predetermined range,

wherein the predetermined range is based on a pressure range within which the vent-shut valve can open.

12. (Cancelled)

13. (Currently Amended) The computer program of claim ~~[[12]]~~ 11, wherein the pressure range within which the vent-shut valve can open is based on a biasing force of a spring of the vent-shut valve.

14. (Currently Amended) The computer program of claim ~~[[8]]~~ 13, wherein the spring of the vent-shut valve is provided in the atmosphere side relative to a valve seat at which the vent-shut valve is seated,

wherein the program code for prohibiting the leakage determination further comprises program code for prohibiting the leakage determination if the detected pressure is greater than a predetermined positive pressure.

15. (Currently Amended) The computer program of claim [[8]] 13, wherein the spring of the vent-shut valve is provided in the canister side relative to a valve seat at which the vent-shut valve is seated,

wherein the program code for prohibiting the leakage determination further comprises program code for prohibiting the leakage determination if the detected pressure is lower than a predetermined negative pressure.

16. (Original) An apparatus for determining leakage in an evaporated fuel processing system, the evaporated fuel processing system extending from a fuel tank through a canister to a purge passage through which evaporated fuel from the fuel tank is purged to an intake manifold of an engine, the canister comprising a vent-shut valve that communicates with the atmosphere, the apparatus comprising:

a pressure sensor for detecting a pressure of the evaporated fuel processing system;

means for detecting a stop of the engine;

means for closing the vent-shut valve to close the evaporated fuel processing system after the stop of the engine is detected;

means for determining whether the evaporated fuel processing system has leakage after the evaporated fuel processing system is closed based on the detected pressure and a predetermined determination value; and

means for prohibiting the leakage determination if the detected pressure is not within a predetermined range.

17. (Original) The apparatus of claim 16, wherein the predetermined range is based on a pressure range within which the vent-shut valve can open.

18. (Original) The apparatus of claim 17, wherein the pressure range within which the vent-shut valve can open is based on a biasing force of a spring of the vent-shut valve.

19. (Original) The apparatus of claim 18, wherein the spring of the vent-shut valve is provided in the atmosphere side relative to a valve seat at which the vent-shut valve is seated,

wherein the means for prohibiting the leakage determination further comprises means for prohibiting the leakage determination if the detected pressure is greater than a predetermined positive pressure.

20. (Original) The apparatus of claim 18, wherein the spring of the vent-shut valve is provided in the canister side relative to a valve seat at which the vent-shut valve is seated,

wherein the means for prohibiting the leakage determination further comprises means for prohibiting the leakage determination if the detected pressure is lower than a predetermined negative pressure.